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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. |
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| 09/423,085 | 11/02/99 | MITSUYA T | 1422-401P |

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| EXAMINER | |
|---|---|
| MADSEN, R | |
| **ART UNIT** | **PAPER NUMBER** |
| 1761 | 5 |

**DATE MAILED:** 08/30/00

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 09/423,085 | MITSUYA ET AL. | |
| | Examiner | Art Unit | |
| | Robert Madsen | 1761 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

**Status**

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) 1-8 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-8 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claims _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved.

12)☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. § 119**

13)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a)☐ All b)☐ Some * c)☐ None of the CERTIFIED copies of the priority documents have been:

1.☐ received.

2.☐ received in Application No. (Series Code / Serial Number) _____ .

3.☐ received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. & 119(e).

**Attachment(s)**

15) ☒ Notice of References Cited (PTO-892)
16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .
18) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
19) ☐ Notice of Informal Patent Application (PTO-152)
20) ☐ Other: .

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takayuki et al. (JP 11113533 A) in view of Ueda et al. (US 5487911).

Regarding claim 1, Takayuki et al. teach a powder composition that comprises delipidated egg yolk particles with a functional food material (a flavor, color or vitamin). Takayuki et al. teach that the food material is compounded with the egg yolk powder, but are silent in teaching that the functional food is actually impregnated into the pores of the egg yolk particles (Abstract).

Ueda et al. are relied on as teaching egg yolk particles used on a commercial scale are preferably obtained by spray drying since industrial scale hard boiling of eggs or heat coagulating of eggs result in timely processes and unsatisfactory products (Abstract, Column 1, lines 10-45). Ueda et al. further teach the resulting spray dried particles, insoluble in water, absorb water (water impregnates the particles) when mixed to form a desired composition. (Column 2, lines 27-54). Furthermore, it is well known in the art that the process of spray drying creates porous particles. Therefore, it would have been obvious to use the porous egg yolk particles derived from spray drying since it is a more efficient way of obtaining egg yolk particles and one is substituting one

method of obtaining egg yolk particles for another. It would have been further obvious that if one were to use spray dried egg yolk particles in the composition that the flavor, color or vitamin (often in oil form) impregnate the pores, since spray drying creates a porous particle and one is compounding the egg yolk particles with the functional food to obtain a powder.

Regarding claim 3, Takayuki et al. are silent in teaching the particular particle size of the delipidated egg yolk, but Ueda et a. teach the conventional size of a spray dried egg yolk powder is from 5 to 200 microns. Ueda et al. and further teach motivation for maintaining the particle size in this range, since particle size affects the mouthfeel of the resulting composition(Column 2, lines 58-67). Therefore it would have been obvious that the resulting powdery composition of Takayuki et al. should be 1 to 100 microns since it is conventional to produce egg yolk powder in this particle size.

Regarding claim 4, Takayuki et al. teach the functional food is 20 to 50 parts and the egg powder is 100 parts of the total weight of the composition, or 17% to 33% of the composition is a functional food (Abstract). To select any other particular level outside that range would have been an obvious result effective variable of the desired taste, color or potency of the powder composition.

Regarding claim 5, Takayuki et al. teach the functional food materials used with the invention ( flavors, colors, and vitamins) are easily deteriorated by oxidation.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takayuki et al. (JP 11113533 A) in view of Ueda et al. (US 5487911) as applied to claim 1 above further in view of Samejima et al. (US 4389331).

Regarding claim 2, Takayuki et al. teach the powdery composition has excellent fluidity, but are silent in teaching a angle of repose less than 60° measured at moisture content of 5+/- 2%, relative humidity of 40% and a temperature of 25°C. Ueda et al. teach the conventionality of spray dried egg yolk particles being generally spherical and having a moisture content of 3 to 5% with a particle size between 5 and 100 microns(Column 2, lines 54-62 and Column 3, lines 1-5). It is well known in the art, as recognized by Samejima et al. that angle of repose is an indication of flowability of a material. Samejima et al. recognize angles of repose less than 60° show flowability, and more specifically angles 30 to 40° show very good flowability (Example 1 and Table 1). Therefore, it would have been obvious that the angle of repose would have to be less than 60°C since Takayuki et al. teach the composition has good fluidity and Samejima et al. recognize angles of repose less than 60° have good fluidity.

Claims 6 –8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takayuki et al. (JP 11113533 A) in view of Ueda et al. (US 5487911) and Broderick et al (US 5139787)

Regarding claim 6, Takayuki et al. teach a method of making a powder composition that comprises delipidated egg yolk particles with a functional food material (a flavor, color or vitamin). Takayuki et al. teach that the food material is compounded

with the egg yolk powder, but are silent in teaching that the egg yolk particles are formed by mixing egg yolk with water and spray drying the mixture to form porous particles. Additionally, Takayuki et al. teach compounding the functional food with the delipidated egg yolk particles, but are silent in teaching that this is done under reduced pressure. (Abstract).

Ueda et al. are relied on as teaching egg yolk particles used on a commercial scale are preferably spray dried since industrial scale hard boiling of eggs or heat coagulating of eggs result in timely processes and unsatisfactory products (Abstract, Column 1, lines 10-45). Ueda et al. further teach that egg yolk is first diluted with water and then the resulting mixture is spray dried (Column 3, lines 46-53). Ueda et al. also teach the resulting spray dried egg yolk particles, insoluble in water, absorb water (i.e., water impregnates the particles) when mixed to form a desired composition (Column 2, lines 27-54). Additionally it is well known in the art that the process of spray drying creates porous particles, and thus sprayed dried egg particles are porous.

Broderick et al. are relied on as teaching the conventionality of mixing porous particles an active ingredient, or functional food material ,under reduced pressure to form a mixture. Broderick et al. teach impregnating the porous particles under reduced pressure, or a vacuum (Abstract Column 5, lines 39-55).

Therefore, it would have been obvious that one may derive the egg yolk particles taught by Takayuki et al. by adding water to delipidated egg yolk and spray drying to obtain porous particles, since it is well known in the art to use spray dried egg yolk particles in place of hardboiled yolk and one would substituting on known method of

deriving egg yolk particles for another. It would have been further obvious that the compounding step taught by Takayuki et al. would comprise mixing the porous egg yolk particles with the functional food under reduced pressure since it is well known in the art to impregnate porous particles under reduced pressure and one would be substituting one known means of compounding for another for the same purpose: impregnating a porous material with a functional food material.

Regarding claim 7, to further include stirring while the mixture is dried under vacuum would have been an obvious result effective variable of desired since it is well known that stirring a mixture improves the uniformity of the mixture.

Regarding claim 8, Takayuki et al. teach a powder composition that comprises delipidated egg yolk particles with a functional food material (a flavor, color or vitamin). Takayuki et al. are silent in teaching adding the powder composition to a food. However, it is well known in the art to add flavors, color, or vitamin to food compositions. Broderick et al. are relied on as further evidence of the conventionality of adding a porous particle containing a functional food material, a sweetener to a food product, or gum (Abstract). Therefore, it would have been obvious that one may add the particles taught by Takayuki et al. to a food composition since one would be substituting one known porous particle impregnated with a functional food material for another.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Robert Madsen whose telephone number is (703)305-0068. The examiner can normally be reached on 7:30AM-4:00PM, Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gabrielle Brouillette can be reached on (703)308-0756. The fax phone numbers for the organization where this application or proceeding is assigned are (703)305-3599 for regular communications and (703)305-3599 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

R. Madsen
August 28, 2000

G Brouillette
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